

**$f_0(2020)$**  $I^G(J^{PC}) = 0^+(0^{++})$ 

## OMITTED FROM SUMMARY TABLE

Needs confirmation.

 **$f_0(2020)$  MASS**

| VALUE (MeV)   | EVTS | DOCUMENT ID | TECN | COMMENT   |
|---|------|-------------|------|---|
| <b>1992±16</b>  | 1,2  | BARBERIS    | 00C  | 450 $p\bar{p} \rightarrow p_f 4\pi p_s$               |
| • • • We do not use the following data for averages, fits, limits, etc. • • • |      |             |      |   |
| 2037± 8   | 80k  | 3 UMAN      | 06   | E835 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$         |
| 2040±38   |      | ANISOVICH   | 00J  | SPEC  |
| 2010±60   |      | ALDE        | 98   | GAM4 100 $\pi^- p \rightarrow \pi^0\pi^0 n$           |
| 2020±35   |      | BARBERIS    | 97B  | OMEG 450 $p\bar{p} \rightarrow p\bar{p}2(\pi^+\pi^-)$ |

1 Average between  $\pi^+\pi^- 2\pi^0$  and  $2(\pi^+\pi^-)$ .  
 2 T-matrix pole.  
 3 Statistical error only.

NODE=M156

NODE=M156M

NODE=M156M

NODE=M156M;LINKAGE=PC  
NODE=M156M;LINKAGE=PP  
NODE=M156M;LINKAGE=ST

NODE=M156W

NODE=M156W

NODE=M156W;LINKAGE=PC  
NODE=M156W;LINKAGE=PP  
NODE=M156W;LINKAGE=ST

NODE=M156215;NODE=M156

 **$f_0(2020)$  WIDTH**

| VALUE (MeV)   | EVTS | DOCUMENT ID | TECN | COMMENT   |
|---|------|-------------|------|---|
| <b>442± 60</b>  | 4,5  | BARBERIS    | 00C  | 450 $p\bar{p} \rightarrow p_f 4\pi p_s$               |
| • • • We do not use the following data for averages, fits, limits, etc. • • • |      |             |      |   |
| 296± 17   | 80k  | 6 UMAN      | 06   | E835 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$         |
| 405± 40   |      | ANISOVICH   | 00J  | SPEC  |
| 240±100   |      | ALDE        | 98   | GAM4 100 $\pi^- p \rightarrow \pi^0\pi^0 n$           |
| 410± 50   |      | BARBERIS    | 97B  | OMEG 450 $p\bar{p} \rightarrow p\bar{p}2(\pi^+\pi^-)$ |

4 Average between  $\pi^+\pi^- 2\pi^0$  and  $2(\pi^+\pi^-)$ .  
 5 T-matrix pole.  
 6 Statistical error only.

NODE=M156W

NODE=M156W

NODE=M156W;LINKAGE=PC  
NODE=M156W;LINKAGE=PP  
NODE=M156W;LINKAGE=ST **$f_0(2020)$  DECAY MODES**

| Mode                    | Fraction ( $\Gamma_i/\Gamma$ ) |
|-------------------------|--------------------------------|
| $\Gamma_1 \rho\pi\pi$   | seen                           |
| $\Gamma_2 \pi^0\pi^0$   | seen                           |
| $\Gamma_3 \rho\rho$     | seen                           |
| $\Gamma_4 \omega\omega$ | seen                           |
| $\Gamma_5 \eta\eta$     | seen                           |

DESIG=1;OUR EST;→ UNCHECKED ←  
DESIG=2;OUR EST;→ UNCHECKED ←  
DESIG=3;OUR EST;→ UNCHECKED ←  
DESIG=4;OUR EST;→ UNCHECKED ←  
DESIG=5

NODE=M156220

NODE=M156R1  
NODE=M156R1NODE=M156R01  
NODE=M156R01

NODE=M156

REFID=51063  
REFID=47950  
REFID=47959  
REFID=47962  
REFID=46605  
REFID=46914  
REFID=45758 **$f_0(2020)$  BRANCHING RATIOS**

| $\Gamma(\rho\rho)/\Gamma(\omega\omega)$                                       | DOCUMENT ID | COMMENT   | $\Gamma_3/\Gamma_4$ |
|---|-------------|---|---------------------|
| • • • We do not use the following data for averages, fits, limits, etc. • • • |             |   |                     |
| ~ 3   | BARBERIS    | 00F 450 $p\bar{p} \rightarrow p_f \omega\omega p_s$ |                     |
| • • • We do not use the following data for averages, fits, limits, etc. • • • |             |   |                     |
| $\Gamma(\eta\eta)/\Gamma_{\text{total}}$                                      | DOCUMENT ID | COMMENT   | $\Gamma_5/\Gamma$   |
| seen  | UMAN        | 06 E835 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$    |                     |

 **$f_0(2020)$  REFERENCES**

|           |     |                             |                              |                  |
|-----------|-----|-----------------------------|------------------------------|------------------|
| UMAN      | 06  | PR D73 052009               | I. Uman <i>et al.</i>        | (FNAL E835)      |
| ANISOVICH | 00J | PL B491 47                  | A.V. Anisovich <i>et al.</i> |                  |
| BARBERIS  | 00C | PL B471 440                 | D. Barberis <i>et al.</i>    | (WA 102 Collab.) |
| BARBERIS  | 00F | PL B484 198                 | D. Barberis <i>et al.</i>    | (WA 102 Collab.) |
| ALDE      | 98  | EPJ A3 361                  | D. Alde <i>et al.</i>        | (GAM4 Collab.)   |
| Also      |     | PAN 62 405                  | D. Alde <i>et al.</i>        | (GAMS Collab.)   |
|           |     | Translated from YAF 62 446. |                              |                  |
| BARBERIS  | 97B | PL B413 217                 | D. Barberis <i>et al.</i>    | (WA 102 Collab.) |